RESEARCH: *IT ALL ADDS UP* INITIATIVE-DESIGN AND TARGET AUDIENCE

Executive Summary (Secondary Research)

Review of existing research, commonly referred to as secondary research, provided solid support for development of a nationally based initiative with a strong community-based component. As a prelude to this effort, FHWA and EPA had commissioned the National Association of Regional Councils (NARC) to review existing national, regional, and local public information initiatives on transportation and air quality. The resulting report, "Personal and Public Strategies for Improving Air Quality: A Public Education Campaign," provided specific recommendations and helped to identify some of the challenges and opportunities for the national initiative, resulting in a framework which included the following:

1. Creating and disseminating consumer-based messages that encourage people to make choices that contribute to better air quality and less traffic congestion
2. Developing a community-based program to seed new efforts
3. Linking national organizations through a national transportation and air quality coalition

Secondary research was also used to develop a preliminary target audience profile. A thorough review was conducted of demographic and psychographic research regarding people's transportation habits and their attitudes and behavior related to the environment. These studies included *The Environment: Public Attitudes and Individual Behavior* (a long-term study of consumer environmental attitudes and behaviors conducted by the Roper Organization, Inc.) and Mediamark Research, Inc. Index (syndicated market research on people's purchasing behavior categorized by demographics and media used). This profile was then explored through primary research, including discussion groups[1] and focus groups[2].

Initiative Design Research

The following formative research was conducted with key organizations and members of the general driving and commuting public to gain a more in-depth understanding of developing a national public education effort:

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[1] Discussion groups are structured discussions led by a moderator and typically include seven to nine people. The group convenes for 90 minutes to two hours, covering three to four topics in depth. (In all studies of this kind, results reflect the opinions and attitudes of a limited number of people, and therefore, should be regarded as suggestive rather than definitive. This research is not intended to be quantitative or to provide a probability sample of the population from which participants are selected.)

[2] Focus groups are structured discussions led by a moderator and typically include eight to 10 people. The group convenes for two hours, usually after work on a weekday. Typically two 2-hour groups are held per evening. The moderator leads the group through a discussion about their knowledge, awareness, attitudes, perceptions, and responses about a particular issue, product, or idea. Focus group participants should be recruited by reputable field services using a screener designed in collaboration with you. Typically, participants were offered small cash incentive for their participation. Each set of focus groups conducted for this project contained a mix of men and women, who varied considerably in terms of age, occupation, income level; minority representation was 10-20%, which reflected our target audience. (In all studies of this kind, results reflect the opinions and attitudes of a limited number of people, and therefore should be regarded as suggestive rather than definitive. This research is not intended to be quantitative or to provide a probability sample of the population from which participants are selected.)

< During January 1996, four moderated discussion groups were held with key national organizations in Washington, DC at the National Transportation Research Board meeting in order to gain insight from potential stakeholders into the challenges and potential obstacles of a national transportation and air quality initiative.

< During February 1996, four two-hour focus groups were conducted with members of the general driving public to identify key issues and potential communications strategies in the development of the initiative in two regions of the country: the Northeast (Philadelphia) and West (Denver). A total of 38 drivers participated in the study.

Based on key findings from these studies, a message strategy was developed to create positive messages that encouraged the public to take such voluntary actions as trip chaining, maintaining their cars, and using alternative modes of transportation that can help meet the challenge of reducing traffic congestion and air pollution.

Concept and Message Testing Research (Focus Groups)

Additional research was conducted to ensure the messages resonated with the target audience(s) as well as with communities that offered a diverse array of transportation options. Concept testing focus groups were conducted in Dover, Delaware and Albany, New York to obtain information to help develop marketing materials to raise awareness of the relationship between personal transportation habits, congestion, and air quality. Findings were used to develop initiative messages, and in November 1997, message testing focus groups were conducted in Milwaukee, Wisconsin. The results of this study were used to refine the messages, which were translated into a wide range of media, including television, radio, and print, and then packaged in a "resource toolkit" that communities could use to tailor the initiative to meet local needs.

Program Development Research

Pilot Sites

The next phase of program development was to pilot test the initiative community-based program and materials in three communities across the nation, including San Francisco, CA; Milwaukee, WI; and Dover, DE. Feedback from the communities helped to shape the development of resources that could build community capacity and support program activities in communities with various transportation options and demographic profiles.

Demonstration Communities

Table 1 provides a summary of key research conducted to support the development of the initiative. Each section, including Review of Existing Research Initiative-Design Research,

Concept- and Message-Testing Research, and Program-Development Research is described in greater detail in this section of the toolkit**.**

Table 1: Research Conducted to Support *It All Adds Up to Cleaner Air*

Review of Existing Research	**Primary Research**		
	Initiative Design/ Exploratory	**Concept and Message Testing**	**Program Development**
<NARC Review of Existing Transportation and Air Quality Public Education Programs (1995) <Target Audience Research: Roper Organization, Inc., Mediamark Research, Inc., Index, Pennsylvania DOT, and Washington Metropolitan Council of Governments	< Stakeholder Discussion Groups (1996) < Target Audience Focus Groups (1996) < Latino Focus Groups (1998)	< Concept Testing with Target Audience (1997) < Message Testing with Target Audience (1997)	<Initiative Pilot Phase (1998) <Initiative Demonstration Phase (May 1999 - October 2000)

I. Review of Existing Research (Secondary Research)

An extensive review of national and regional/local public education programs on transportation and air quality, along with other DOT and EPA public education initiatives, provided information on the "gaps" in public education efforts, and identified the need for a nationally implemented program. Other key information from the literature review included potential barriers, opportunities, messages, and methods for maximizing target audience participation. We found that, although there are many national, local and regional organizations implementing transportation and air quality programs, inconsistent messages are directed at the general public. Also, many of the current and recent programs have focused primarily on health messages versus traffic congestion relief and other quality of life issues, such as time savings and stress

relief.

Benefits of both locally and nationally implemented programs were found in the preliminary research. Most notably, local programs include opportunities for a face-to-face relationship with the target audience (the general driving public), and are best at addressing community issues, while programs implemented at the national level enable the message to reach the broadest audience, establish the issue as a national priority, and are usually more comprehensive and long-term. Analysis of these benefits provided a basis for the development of a national initiative with a strong community-based component.

A. Review of Existing Transportation and Air Quality Public Education Programs

In 1994, the National Association of Regional Councils (NARC) conducted a project "Personal and Public Strategies for Improving Air Quality: A Public Education Campaign" to achieve the following goals:

- Develop general agreement among interested parties on the problems they identified and a common mobility and air quality message.
- Identify general strategies for implementing public education/outreach programs.

NARC conducted a thorough review of public information and outreach programs across the country. In December 1994, they convened a stakeholder conference of 40 representatives from a variety of organizations with interests in both transportation and air quality. From the review of the stakeholder conference, a framework for organizing public education/outreach campaigns began to emerge. In their report, published in 1995, NARC made a wide range of observations and recommendations, including:

- State and local entities have requested additional assistance in meeting the ambient air quality standards.
- Messages disseminated by public education programs are inconsistent.
- Messages do not clearly link transportation choices to air quality.
- Messages related to air quality and mobility need a credible rationale.
- Broad-based support from the public is essential.
- The messages must be simple and understandable to be effective.
- The performance of public education programs must be measured over time.

B. Target Audience Research

To identify segments of the general public who would be most amenable to changing their transportation behaviors to improve air quality, we reviewed demographic and psychographic research regarding people's transportation habits and their attitudes and behavior related to the environment. These studies included *The Environment: Public Attitudes and Individual Behavior* (a long-term study of consumer environmental attitudes and behaviors conducted by the Roper Organization, Inc.), Mediamark Research Inc., Index (syndicated market research on people's purchasing behavior categorized by demographics and media used) and additional regional/state quantitative and qualitative research.

The Roper Organization uses a clustering technique to divide Americans into the following five behavioral categories based primarily on whether or not they have engaged in a list of "environmentally friendly" practices (e.g., recycling, involvement in environmental organizations, and purchasing environmentally-safe products): True-blue Greens, Greenback Greens, Sprouts, Grousers, and Basic Browns. The ability to divide the general public in this way is helpful to understanding which audience segment would be most willing to listen to, and potentially act on, messages pertaining to people's transportation choices and the effects such choices have on the environment.

Following is a summary of each category:

- ***True-blue Greens*** - This group's behavior reflects their strong environmental concerns. They are the leaders of the green movement. They are distinguished by high levels of education and social involvement. As leaders of the environmental movement, this group would be most likely to be cognizant of the air quality effects of their transportation choices; however, their professional-level jobs and other commitments may force them to sometimes stray from their environmental commitment.

- ***Greenback Greens*** - This is the segment of the general population most willing to pay more for environmentally safe products and services. They are also pro-environment voters and contribute to environmental organizations. However, they are reluctant to make substantial behavior changes, because they desire convenience and may perceive they have limited transportation options for responsibilities such as child care. While they are willing to pay substantially more for less polluting gasoline, they have not been willing to cut back on their use of automobiles.

- ***Sprouts*** - This is a key "swing" group. Members of this market segment are moving out of the awareness phase and are just beginning to accept environmental messages. Although they are ambivalent about environmental regulations, a large percent regularly recycle newspapers and believe that individuals can reduce air pollution caused by automobile exhaust.

- ***Grousers*** - Grousers are indifferent to the environment; however, they rationalize their indifference as identifying them with the mainstream. A huge majority of this group say that companies, not the public, should solve environmental problems, that they are too busy to make lifestyle changes for the environment, and that others aren't making sacrifices, so why should they.

- ***Basic Browns*** - This group conducts virtually no environmental activities. Unlike the Grousers, they do not rationalize their behavior. Instead, their indifference stems from the belief that there is little individuals can do about most environmental problems.

Who Can We Reach and Affect?

Based on the initial analysis of the data, the two population segments selected to explore,

through

further research, as the potential primary target for *It All Adds Up to Cleaner Air* were the Greenback Greens and the Sprouts.

Greenback Greens were considered an important target audience because they are likely to have the resources to change their transportation behavior, although they may not be convinced that it is important or relevant for them to do so. An environmental message alone may not tempt this group to change their behavior, but because they describe their lifestyles as busy, they may be swayed by the other potential benefits of transportation alternatives, such as time savings and reduced stress. In addition, because many members of the Greenback Greens are parents of young children, the initiative should also target non-commuting trips, such as shopping and taxiing children, that contribute to air quality and congestion problems. According to a variety of sources, these non-work-related trips now account for 70 to 75 percent of vehicle trips.

Sprouts were thought to be a key sub population for the initiative because they believe that individuals can contribute to reducing air pollution, and many already have adjusted to recycling newspapers and other small actions that benefit the environment. A message that uses relevant analogies was highly rated by focus group participants. Sprouts may be the type of people most open to messages that use analogies or identify individual actions which cumulatively result in benefits for the entire community. An environmental message will most likely affect this group, and the added benefits of less traffic congestion may bolster message appeal.

Although True-blue Greens, who are highly involved in environmental issues, will probably most easily comprehend the program messages, they probably already understand transportation and air quality issues and are making decisions based on this knowledge. Although they most likely will support the initiative, a program targeted to them was anticipated to be "preaching to the choir." Therefore, it was not considered necessary to target messages directly to this audience; however, messages will provide reinforcement for their current practices.

Research, conducted on target audiences for similar initiatives by the Pennsylvania Department of Transportation and the Metropolitan Washington Council of Governments, clustered audiences by their potential for adopting or changing behavior. They defined a group called "Early Adopters" as people who recognize that air pollution is a problem and feel that they personally can make a difference. At the time of the studies, this segment was composed primarily of college graduates employed in white-collar occupations. This profile tracked with Roper's "Sprouts" profile, although a lot more than 50 percent were women. Similar to the Roper poll, the two local studies estimated this subgroup to be approximately 40 percent of the population.

Who Will Be Hard To Reach?

Grousers and Basic Browns were anticipated to be most unlikely to heed messages on the environmental effects of transportation choices. These groups may even "fight back" if a message asks them to make a personal sacrifice for the environment. Primarily for this reason, the initiative messages do not present the driver as the "bad guy." It is important to be clear that

we are not asking people not to drive or to give up their automobile, but just to consider the benefits of using transportation alternatives and making other behavioral changes.

In addition to demographic and psychographic characteristics, there are also transportation infrastructure factors that will narrow the target audience(s) for some messages. Although everyone can be asked to consider the relationship between air quality and transportation, some people do not have as many transportation options as others (e.g., rural versus urban/suburban residents).

II. Initiative Design Research

A. Stakeholder Discussion Groups

During January 1996, four moderated discussion groups were held in order to gain insight from potential stakeholders into the challenges and potential obstacles of a national transportation and air quality initiative. A moderated discussion group is a structured discussion that typically involves eight to 10 people. In these particular groups, participants were asked to describe their concerns about air quality and transportation/congestion issues. They then discussed in detail a number of specific scientific statements about air quality and the relationship of automobile emissions and air pollution, and the strengths and weaknesses of the sponsoring agencies. Participants were also asked to provide advice on possible ways to implement an initiative of this type and to provide general advice based on past and current experience in similar initiatives. Two one-on-one phone interviews, which were conducted with participants not able to attend a session, followed the same line of questioning and requests for advice.

The sessions were conducted with representatives from four stakeholder groups – industry, states, metropolitan planning organizations, associations and non-governmental organizations – at the 1996 Transportation Research Board Annual Meeting to:

- provide a forum for communicating Transportation/Air Quality initiative progress to a key group of stakeholders;
- gain additional, specific information from a diverse range of key stakeholder groups;
- begin identification and preliminary evaluation of potential coalition partners and credible sources for transmitting the program messages, and outline some potential strategies for working with partners; and
- identify potential sites for Transportation/Air Quality pilot projects.

As in all studies of this kind, the results reflect the opinions and attitudes of a limited number of people, and therefore, should be regarded as suggestive rather than definitive. The research is not intended to be quantitative; however, because these participants are experts in the fields of transportation and the environment, their input and recommendations are of considerable importance.

Key Findings

Significant interest and enthusiasm existed in the subject area. Based on the high acceptance

rate to the invitations to participate in the discussion sessions, and based on feedback within the sessions, there were significant levels of interest and enthusiasm in the subject area among all stakeholder groups.

There was general enthusiasm for a cooperative effort among FHWA, EPA, FTA, and other organizations, although some people were skeptical about the agencies' ability to work together, the credibility of a message coming from federal agencies, and the effectiveness of a message that would be agreed upon by all involved. In all groups, participants indicated that the agencies lend credibility, expertise, and the ability to assist a project at the local level. Stakeholder groups expressed varying reasons to support the effort, from perceiving it as an ongoing dialogue with the federal agencies and a method of receiving guidance to seeing it as a potential opportunity to influence national policy. However, it was often pointed out that the agencies' differing missions may hinder (or water down) the effects of a cooperative effort, and that the regulatory responsibilities of FHWA and EPA may lessen the credibility of the initiative message.

There was some disagreement over basic issues related to transportation and air quality. While nearly all participants said that air quality issues were priorities for their organizations, there was some disagreement over the basic assumptions concerning air quality. Disagreements ranged from unclear connections between congestion and air quality to statements that automobiles are no longer a primary source of ozone.

There was a need for local identification of problems, solutions, and message delivery. Several participants commented that the relationships among transportation, air quality, and various transportation control measures vary substantially from place to place. Based on the nature of this problem, participants voiced the need for a local orientation in identifying and addressing air quality issues.

There was a need to focus on issues such as non-commuting trips, as well as other mobile sources. It was noted by some of the participants that two-thirds of today's car trips are non-commuting trips, and in order to address this problem fully, the initiative needs to encompass both commuting and non-commuting trips. In addition, the issue was raised regarding EPA and FHWA research that indicates the automobile is no longer the primary source of ozone, and that the initiative should address other mobile sources (e.g., planes, trains).

There was a belief that the public does not fully understand air quality issues and that education is necessary. Many participants felt that public education is extremely important because the general public does not understand the air quality problem. Some of the issues they felt needed to be explained were the link between air quality and health, transportation options available and the benefits of each, the relationship of transportation and air quality, and the hidden costs of driving a car.

Disagreement existed regarding the content of the public education and information initiative. Some participants pointed out a need to reestablish links between health and air pollution, while others stated that the public should be informed of improvements in today's air quality and auto emissions. Despite this disagreement, there was consensus that education is an important aspect

of the initiative. In addition to public education, many participants noted that the future success of the initiative is dependent upon incorporating air quality and transportation issues into today's school curriculum.

The federal government should support its public education programs with action and demonstrate an early success. Although the kind of action was not specified by the participants, many expressed a need for the sponsoring federal agencies to take actions that support this initiative. These actions could range from encouraging government employees to think about their transportation choices to offering financial grants to communities willing to expand upon or improve their public transportation system.

In addition, the stakeholders agreed that in order to ensure the program succeeds in the long term, an early success should be demonstrated. This success would encourage others to get involved, and provide those who already are involved confidence that they are backing an important, timely, and successful program.

B. Target Audience Focus Groups

During February 1996, four two-hour focus groups were conducted to obtain information about transportation and air quality issues related to the driving public. The study was conducted primarily to identify key issues and potential communications strategies in the development of the public education and information initiative.

Participants were asked to describe their basic driving patterns, transportation choices or alternatives to driving, and air quality in general, and how they may or may not contribute to air pollution, and also provide reactions to message concepts. Participants were representatives of the general driving public, although some were commercial drivers and drivers who use their cars in their work.

The groups were held in two regions of the country: the Northeast (Philadelphia) and West (Denver). A total of 38 drivers participated in the study. Each group contained both men and women, and held considerable variation in terms of age, occupation, and income levels, and some minority representation.

As in all studies of this kind, the results reflect the opinions and attitudes of a limited number of people, and therefore, should be regarded as suggestive rather than definitive. The research was not intended to be quantitative or to provide a probability sample of the population from which the participants were selected. It should also be noted that these sessions were shaped, in part, by discussions with individuals with a direct interest in transportation and air quality issues, namely industry and association executives and state DOT and MPO representatives.

Key Findings

Time spent in the car. *Focus group participants said they accepted the amount of time spent in their cars and adjusted their behaviors accordingly.* Many noted that driving time was spent mentally preparing for or unwinding from the workday, and for planning errands. Although not

directly stated, they seemed to attach importance to that "transition time."

Leaving the car at home. *Participants were not intrinsically against the idea of leaving their cars at home, but believed it was more appropriate for those who have more routine schedules.* While some participants, and therefore a significant number of drivers today, want ready access to their cars, others simply may need more motivation, flexibility, and support to seek out alternatives to single-occupant-vehicle (SOV) driving. In terms of potential motivators, short- and longer-term financial incentives were most highly rated, although there seemed to be important regional differences, because some participants in the Denver group gave greater importance to incentives such as a cleaner environment or health-related topics.

The hidden costs of driving. One hypothesis going into the groups was that the general public did not fully understand the true, or "hidden," costs of operating a car, such as uninsured accidents, air pollution, and opportunities lost through subsidies which reduce fuel costs. The funding agencies wished to test whether informing drivers of these hidden costs might motivate them to consider options to solo driving. **Regardless of how the hidden costs of driving were presented, participants did not place a great deal of importance on them.** Most participants either accepted the figures as reasonable or were skeptical of them. Among those participants who both believed the figures and perceived that the expense of driving alone is significantly more than alternate modes, many viewed the difference as the price of convenience.

Air quality. *Participants in both cities voiced strong opinions about their perceptions of poor air quality in their areas, and participants in the Denver groups were more knowledgeable about potential causes and effects.* In fact, knowledge of the situation and its possible causes or main contributors was so specific, however, that any public information efforts would have to be equally specific in order to be relevant. Participants were also quite knowledgeable about the many ways they may be contributing to poor air quality, but few volunteered to change either their driving or purchasing behavior to mitigate those contributions. This was especially important, given the relatively large number of participants who traced health problems within their families or friends to poor air quality.

View of government agencies*. Participants had generally negative attitudes and perceptions toward the federal government, but those feelings softened when the discussion turned to specific agencies or people.* This held true in both cities, with EPA registering a measure of residual goodwill, even though some of the agency's programs (e.g., ECO, Superfund) are viewed negatively. Criticism of DOT was given almost exclusively by the commercial drivers in the groups. Furthermore, participants, when prompted, had a relatively good grasp of the role of each agency

Public information initiatives*. Participants had fairly good levels of awareness of marketing programs relating to public transportation or issue-related initiatives, such as recycling.* Participants did not, however, have positive impressions of the campaigns themselves, and they did not believe such campaigns, as a whole, are effective. In fact, a few of the participants cited public service announcements that are 20 to 30 years old (e.g., Native American crying at scenes of littering along the roadway) as the most effective programs of their kind. In describing these kinds of initiatives, participants continually stressed the need for communicating convenience.

This was reinforced in the subsequent discussions on message statements. In terms of potential program sponsors, those entities or individuals closest to the target audience(s) were thought to be the most effective communicators, due to their knowledge about local market conditions and the needs of the community. Friends and family were rated as the most favored potential messengers, and the federal government the least favored messenger.

Message statements. *Overall, the convenience, effectiveness, and simplicity of specific actions were the most appealing aspects within the messages.* An effective part of communicating convenience was the use of a relevant analogy, for example seatbelts, recycling, or littering. We also learned that to be effective, messages must strike a balance between how individual actions can help improve air quality and mobility, while placing the individual's (i.e., automobile driver's) responsibility in context with that of other entities (i.e., business and governments).

C. Latino Focus Groups

Two focus groups among Latinos were conducted on August 21, 1998 in San Jose, California by Equals Three Communications, working with Garcia Research Associates, a Hispanic research firm in the San Francisco Bay Area. The focus groups were designed to gather exploratory information to expand the national messages to reach Hispanic audiences across the nation, and to support the San Francisco pilot site as they developed information programs to meet the needs of Hispanic transit riders.

National Research Objectives:

- Explore audience core values, beliefs, and information sources.
- Identify perceptions related to air quality and transportation choices.
- Explore perceived transportation options, transportation habits, and related benefits, barriers, and motivators for environmentally conscious transportation choices.
- Generate possible ideas for adaptation of national messages for Hispanic audiences.

Local Research Objectives:

- Determine the transit information needs of Spanish-speaking residents.
- Assess the effectiveness of current information services in reaching Spanish-speaking populations.
- Develop information programs that better meet the needs of Spanish-speaking individuals.

Methodology

One group was conducted in Spanish while the other was conducted in English, both by the same moderator using the same discussion guide. Qualified respondents met specific criteria outlined in the screener questionnaire, namely Latinos who use public transportation, rideshare, or drive alone to work. Although the participants came from a variety of Latin American countries, most came from Mexico, therefore, these findings may not be applicable to other subgroups of the

Hispanic population.

Key Findings

The participants were very concerned about job security and economic issues such as the cost of living, particularly with regard to housing. They also expressed concern about personal safety and education.

Air quality was not mentioned on an unaided basis, although traffic congestion was a concern. The English speakers seemed much more environmentally conscious than the Spanish speakers who tended to be less critical and less demanding than their English-speaking counterparts, who saw degrading air quality as the cause of the increased incidence of asthma, particularly among children and seniors.

The Spanish speakers were much more likely to blame commercial and industrial sources of pollution than the English speakers who more readily acknowledged the role of privately owned automobiles in the air pollution problem.

Both groups were aware of government regulations and felt such restrictions were important, even when the regulations directly affected them in the form of Smog Check programs and costly fuel additives.

There was a perception that local air quality and congestion has worsened over the last 10 years, although they felt they were still better off than larger cities such as Los Angeles, Mexico City, or New York. Despite feeling relatively lucky, these respondents expressed willingness to undertake behavior changes that would benefit the environment.

The Latino respondents were satisfied for now with the transportation options available to them but felt that the system had limits and new programs and systems would have to be put into place to deal with the population growth in the area. They saw the need for new bus routes, new light rail lines, extending Bay Area Rapid Transit District (BART)'s reach, better links between the different transit systems, and perhaps expanded boat systems.

They were open to using 800 lines to obtain information, but stated they were not pleased with phone tree systems, because they prefer to deal directly with operators. Spanish speakers would have been easier to please as long as Spanish-language services were available.

Television, radio, and newspapers were reported as the best way to disseminate general information about transit issues. They recommended that more specific information and brochures be distributed not only at the transit stations, but also at schools, libraries, hospitals, clinics, malls, laundromats, parks, and churches, among others. The post office was mentioned as a key location by the Spanish-speaking group.

Rail systems were viewed more positively than bus lines. Rail was seen as cleaner, faster, safer, and more comfortable. Bus systems were seen as dirtier, slower, more prone to breakdowns, and to be crowded.

III. Concept and Message Testing (Focus Groups)

A. Concept Testing

Focus groups held in Dover, DE and Albany, NY, described below, were critical in reshaping the initiative's target audience(s). Based on participants' input, combined with results of the previous focus groups, the initial audience segmentation was revisited (see section I. B. on existing target audience research on "Sprouts" and "Greenback Greens").

Focus groups revealed that many participants did not see environmental benefits as a convincing reason for change and indicated other benefits were much more relevant. Therefore, our strategy shifted from targeting those who are most likely to change based on environmental reasons to the general driving public. Those who would consider the environment as one of many benefits to adopting environmentally conscious transportation choices became our secondary target audience.

1. Dover, Delaware Focus Groups

On Thursday, June 19, 1997, two focus groups were conducted in Dover, Delaware to obtain information that would be used to develop marketing materials to raise awareness of the relationship between personal transportation habits, congestion, and air quality. This research was undertaken to explore ways of supporting state departments of transportation and metropolitan planning organizations (MPOs) in their efforts to comply with the requirements of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Clean Air Act Amendments of 1990 (CAAA). Dover was selected as a pilot site to assist with the development and implementation of a local initiative that could draw on local transportation options and be delivered by a local coalition of private and public organizations. The information obtained in the Dover groups not only assisted in the development of the local aspect of the initiative, but provided valuable insight into candidates for national messages and how locations similar to Dover might react to this initiative.

Participants were asked about their awareness of local air quality and congestion issues, then were asked to provide feedback on a campaign positioning statement and some message concepts, presented in an "ad-like" format.

The focus groups were conducted with members of the general driving public. Because at this point the initiative messages were designed to target members of the driving public who were moderately knowledgeable of air quality and transportation issues, and were willing to make some changes that would benefit the environment, the screener was designed to exclude both ultra-pro-environmental individuals, and those who were not willing to make any changes in their personal transportation habits (see section I.B. for more information on preliminary target audience segmentation). A total of 16 drivers participated in the study. Each group contained both men and women, and held considerable variation in terms of age, occupation, and income levels, and some minority representation.

In all studies of this kind, the results reflect the opinions and attitudes of a limited number of people, and therefore, should be regarded as suggestive rather than definitive. The research was not intended to be quantitative or to provide a probability sample of the population from which the participants were selected.

Key Findings

Environmental concerns were not among the highest priorities of many Dover commuters. Issues, including crime, wavering trust in state and national elected officials and government, day-to-day economics, and global issues appeared to occupy far more "share of mind" than issues related to the environment. Group participants' comments indicated that concern for the environment did exist, but that these environmental concerns had merely moved to the "back burner" to a number of other chronic issues.

Still, many group members bristled at the suggestion that they should have started doing something about the environment precisely because they believed they were already participating in a variety of direct and indirect environmentally "friendly" activities. Specifically in the automotive category, group members pointed to their use of lead-free gasoline and motor vehicles with pollution controls, and their adherence to state emission standards testing as examples of their ongoing support of the environment.

Many persons were willing to share responsibility for protecting the environment. But they bristled at the suggestion that they should feel either personally guilty for its demise or responsible for its renewal. The people who took part in this study were willing - some even anxious - to take part in what they believed was a larger group effort required to restore and maintain the health of the environment. However, they firmly rejected, and were even insulted by the notion that they should have felt any personal responsibility for the condition of the environment or personal burden for its renewal.

Many Dover commuters did not perceive there to be a problem with the quality of air in central Delaware. The people who took part in this study outlined a variety of environmental concerns, including issues involving local watersheds and the impact of upstream polluters. They did not, however, perceive there to be any problems with air quality in metropolitan Dover. In fact, most described the local air as "very good." One even described the air in Dover as "looking as fresh and clear as if it was handed straight down from God."

There being no perceived problem, there was no perceived urgency associated with restoring air quality. The people who took part in this study believed that air quality was worthy of preservation, though they suggested that it would be a difficult task to convince local citizens to take actions to meet this end. None of the members of either of the two focus groups believed the current air quality in the Dover area required any immediate, urgent remediation.

Any action taken for the good of "the earth" was assumed to include the air. The people who took part in this study did not perceive the earth and the air to be separate entities. Rather their belief was that the earth and the air are part of a single, holistic environment.

Dover's most significant contributors to environmental deterioration were perceived to be industrial polluters located outside Dover. When they thought of adverse environmental contributors, the study participants tended to look "up river" to the major refinery at Delaware City, to industrial installations in northern Delaware and in New Jersey, and even to the impact of coal mining and coal burning utilities in Pennsylvania. With only one or two minor exceptions, environmental deterioration was perceived to be an issue caused by outsiders.

Traffic congestion in Dover was said to be largely a function of transient motorists and "Race Weekend" visitors. Group members believed that traffic originating in Dover was more likely to be private than commercial. However, group members also believed that local traffic congestion, and any resulting environmental deterioration, were caused more by transient traffic and "Race Weekend" visitors than they were by local residents.

Although some Dover commuters were undoubtedly predisposed to abandon their personal motor vehicle in the name of environmentalism, their perceived ability to do so was hindered by a lack of alternate modes. Most of the people who took part in this study had at least a basic awareness of the impact of motor vehicles on the environment. Most said, however, that any predispositions toward changing personal transportation habits were thwarted by 1) America's traditional love of motor vehicles and driving; 2) the creeping "suburbanization" of our nation; and 3) the paucity of alternate modes of transportation.

A number of Dover commuters were aware of a bus system in the Dover metro area. But this system was perceived to be of little utility to them. Many of the persons who took part in this study were aware that there was a bus system in Dover. However, most believed that this system was most targeted to the needs of the elderly and other transit-dependent groups. Neither the timing nor the routing of the existing system was perceived to have utility to any of our group members.

Nearly all of the people taking part in this study agreed, at least conceptually, with the premise of the campaign positioning statement, which read: "My travel choices have an effect on air quality and congestion in my community, and ultimately on quality of life." However, they did not like what they perceive to be its pointed, "accusatory" tone. Initially, almost everyone who took part in this study was to some extent insulted by the campaign positioning statement. Upon further discussion, it was determined that they in fact agreed with the statement, but resented its implication (primarily through the use of the pronoun "my") that individuals are personally responsible for environmental deterioration and for its renewal.

The extent to which twelve "ad-like" concepts were embraced or rejected appeared to have been determined by 1) perceived applicability to Dover; 2) overall credibility; and 3) recognition of an air quality problem in Dover. Study participants in each group had a variety of responses to the 12 concepts presented. Their feedback, however, was remarkably similar from group to group. Some said they simply did not feel they applied to Dover, either because they did
not perceive there to be an air quality problem in Dover, or because they made repeated reference to transportation modes not perceived to be available in Dover.

Nearly all participants agreed that a local coalition would be a credible source to deliver a message on the local situation and options. Although their first reaction was that the messages should come from local or federal government, they stated that they would be more likely to listen if the messages came from a local coalition that included both private and public organizations.

2. Albany, New York Focus Groups

Wednesday, July 30, 1997, two focus groups were conducted in Albany, New York to obtain information to help develop marketing materials to raise awareness of the relationship between personal transportation habits, congestion, and air quality. This research sought to explore ways of supporting state departments of transportation and metropolitan planning organizations (MPOs) in their efforts to comply with the requirements of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Clean Air Act Amendments of 1990 (CAAA). The information obtained in the Albany groups assisted in the development of the local aspect of the initiative, and provided valuable insight into candidates for national messages and how locations similar to Albany might react to this initiative.

Participants were asked about their awareness of local air quality and congestion issues, then to provide feedback on concept statements, appeal statements, and some ad concepts. The participants, who were screened by telephone in advance, were offered a cash payment as an incentive to take part in the study. Because the initiative messages were proposed to target members of the driving public who were moderately knowledgeable of air quality and transportation issues, and were willing to make some changes that would benefit the environment, the screener was designed to exclude both ultra-pro-environmental individuals and those who would not be willing to make any changes in their personal transportation habits. A total of 20 drivers participated in the study. Each group had both men and women, considerable variation in terms of age, occupation, and income levels, and some minority representation.

In all studies of this kind, the results reflect the opinions and attitudes of a limited number of people, and therefore, should be regarded as suggestive rather than definitive. The research is not intended to be quantitative or to provide a probability sample of the population from which the participants were selected.

Key Findings

Group members did not perceive any serious problems with air quality in the Albany metropolitan area. Albany group members conceded that there might have been occasional, localized occurrences of air pollution, mostly from industrial sources, and were generally aware that pollution from the Midwest blows eastward into their region. However, there was still a feeling that the air was good in Albany, and largely free of any harmful content that would require immediate attention.

Regarding their concern for the local environment, the Albany group members put the focus on environmental issues other than air pollution. The people who took part in this study were

far more concerned about the more immediate implications of suburban expansion and the integrity of local municipal water supplies than they were about air quality.

Albany group members knew that use of motor vehicles ultimately affects the environment. However, they did not believe current conditions warrant any change in their current driving habits. Members of the Albany groups were far quicker than their Dover peers to note the relationship between their use of motor vehicles — indeed a whole array of machines, ranging from cars to trucks to buses to boats and lawn mowers — and local air quality. But in the absence of any noticeable problem, Albany group members were reluctant to make any changes in their driving behavior.

Congestion was not perceived to be a problem in Albany. Group members described traffic congestion in the Albany metro area as a highly localized, time-limited problem. Although traffic volume was recognized to be increasing, for the majority of area drivers, congestion simply was not perceived to be a problem.

There was no awareness of the Commuter Register or Guaranteed Ride Home program. Even after understanding Guaranteed Ride Home, participants were not convinced it would work effectively or quickly enough in an emergency situation.

Albany group members believed that significant change in driving habits could only, or most effectively, be achieved through legislation. The members of both Albany groups were very cynical when the idea of citizens taking corrective actions for purely altruistic reasons was considered. They simply did not believe that people would take these actions without being required to do so.

Even those who were predisposed to consider other modes of transportation complained that there were few, if any, viable alternatives to personal automobiles for Albany-area drivers. Group members believed that Albany's bus system worked only for those who commuted from suburbs into Albany's central business and government area. Carpooling, vanpooling and other shared riding initiatives were non-existent or unnoticed. Bicycling or walking were seen as unsuitable for people who lived in the suburbs because of the lack of sidewalks and time/safety issues.

"Chaining" was already happening, but not for air quality or congestion relief reasons. Some of the group members were already linking commuting and errands, but they did so for time savings and convenience. Most said that if those incentives did not exist, they most likely would not have considered trip chaining purely for environmental reasons.

The focus groups also provided interesting feedback regarding the development of any initiative or program designed to influence changes in personal driving habits:

This initiative could only succeed if it was built upon a foundation of highly credible and compelling evidence that an air quality or congestion problem existed. Before they would even consider alternative "solutions," group members commented strongly and repeatedly that they

needed to be convinced that an air quality or congestion problem existed. The adverse impact of this problem needed to be clear, close, and real. The party delivering this message needed to be beyond the reach of political or commercial influence.

Relieving traffic congestion appeared to be a far more effective influencer than reducing air pollution. However, because they didn't perceive that Albany had a serious congestion problem, group members saw little reason to give this issue much attention. Although no true consensus appeared to exist, group members seemed most predisposed to alter their driving habits if they believed that both big organizations and individuals were working together to improve air quality and traffic congestion. Preservation of quality of life was another strong motivator, although again not one that was perceived to be an important issue at present in the Albany area.

Among the program elements shown to Albany group participants, only messages that spoke about carpooling were perceived to be relevant. Among the various modes discussed in this study, only carpooling was perceived to be a relevant, though not a highly realistic, alternative for Albany-area drivers.

The messages presented on automobile maintenance were considered to be too generic to be either noticed or compelling. Group members felt that those messages could have been coming from anywhere – from the automotive industry to neighborhood tune-up shops. The advice the messages conveyed was considered by most group members to be so basic as to be unnecessary.

B. Message Testing

Monday, November 17, 1997, two focus groups were conducted in Milwaukee, Wisconsin to obtain information to help develop marketing materials to raise awareness of the relationship between personal transportation habits, congestion, and air quality. The research sought to explore ways of supporting state departments of transportation and metropolitan planning organizations (MPOs) in their efforts to comply with the requirements of the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Clean Air Act Amendments of 1990 (CAAA). Milwaukee was selected as a pilot site to assist with the development and implementation of a local campaign that could draw on local transportation options and be delivered by a local coalition of private and public organizations. The information obtained through the Milwaukee groups provided insight into national messages and how locations similar to Milwaukee might have reacted to this initiative.

Participants in the groups were asked about their awareness of local air quality and congestion issues, then to provide feedback on three different approaches to communicating messages about environmentally-friendly driving habits and which best meet the communications objectives of the initiative.

Because we initially thought the initiative's messages would target members of the driving public who were moderately knowledgeable of air quality and transportation issues, and were willing to make some changes that would benefit the environment, the screener was designed to exclude both ultra-pro-environmental individuals, and those who were not willing to make any changes in their personal transportation habits. A total of 18 drivers participated in the study.

Each group had both men and women, with considerable variation in terms of age, occupation, and income levels, and some minority representation.

As in all studies of this kind, the results reflect the opinions and attitudes of a limited number of people, and therefore, should be regarded as suggestive rather than definitive. The research was not intended to be quantitative or to provide a probability sample of the population from which the participants were selected.

Key Findings

Participants were not blind to their area's environmental challenges. But other problems had higher priority. The people taking part in this study were familiar with the many ways that Milwaukee's environment was being tested. Environmental problems were the issues that came to mind most readily for most study participants when they thought about conditions that threatened their quality of life.

Traffic congestion was more of an issue to many Milwaukee-area residents. Most saw it to be a function of time, growth, and poor highway planning. There was little question among the people taking part in this study that traffic volume had increased, resulting in congestion in the Milwaukee area. Participants said that traffic on all roads was increasing, especially along busy suburban retail corridors. However, they said the most severe congestion was limited to people who commuted between the suburbs and the city center during "rush" hours. Some blamed area traffic congestion on transportation planning agencies that failed to expand Milwaukee's highways along with the growth of the metropolitan area.

Study participants were aware that there were some alternatives to driving alone; however, none were more than marginally predisposed to use these alternatives. Many study participants believed attempts to promote voluntary changes in personal driving habits were futile. Some younger members of our study said they loved their cars and "love to drive." Others said, "We work too hard for the time and money we have to give up any of it." Some merely described themselves as "dogs too old to learn new tricks." Whatever the reason, the people who took part in this study all said they were too confirmed in their personal driving habits to make changes. A number of the participants said they could have used the local bus system if they wanted, but they thought it required too much time and loss of freedom to accommodate their needs. Some knew that car pooling services were available, but did not think of using these services. A number knew that "Kiss and Ride" sites were located near area byways, but few perceived them to be good for anyone other than those who worked "downtown."

Most study participants believed they were* already *taking steps to help improve local air quality. Members of both groups – some resentful, as if they were asked to give up a fundamental American birthright - described how residents of the Milwaukee area had to give up some of their vehicles' performance because a more environmentally friendly fuel formulation was mandated for the area. They further believed that they were singled out to be "guinea pigs" while people and industry "down south" in Chicago and Northern Indiana (sources that most group members believe are the real polluters) had not yet been required to meet

environmental requirements.

Within this context, study participants had interestingly similar impressions of the three creative approaches presented to them. All three creative approaches were developed to support the initiative theme, *It All Adds Up to Cleaner Air*, that was developed based on feedback from previous stakeholder discussions and consumer focus groups. The first approach used humor and reflected the lifestyle and increasing demands made on individuals who felt as though they were already doing as much as they possibly could. The second approach, which came to be known as the "Anthem" approach, used rich visuals and an uplifting audio to convey a "bandwagon" feeling to call the public to action and to avoid the negative emotions elicited in earlier focus groups when individuals thought they were being told or pressured to change their transportation choices. The third approach used an animated character to bring humor and emotion to the messages.

Key feedback from focus group participants included the following:

- They understood the intent of all campaign messages and all three creative approaches.
- They appeared to be confused regarding target audiences, with more than a few study participants failing to identify with some of the messages shown.
- Study participants were most open to the congratulatory approach that reflected our active lifestyles, although they were somewhat taken aback by the intensity of this approach.
- Although some study participants suggested that the animated character would likely draw the most attention, others did not identify with the character's "attitude." Others felt this approach would speak only to youngsters.
- The "Anthem" approach, which is difficult to fully communicate in anything less than its completed form, was clearly understood by all group members. Group members appeared to be drawn to the beauty of the concept and the calming background music. Participants suggested that the "transportation choices" segment display a wider range of options, including options available in all communities.

Study participants believed the most credible presenter of these messages would be a coalition of consumer, advocacy, and governmental groups. Some study participants believed that any one of these types of organizations might be too prone to radical thoughts or, conversely, bureaucracy. But united in a coalition having a strong state-level connection, study participants believed that these organizations would "keep an eye on one another" and be able to produce a credible, forceful message.

IV. Program Development Research

A. Pilot Phase

In 1997, three communities received support from the federal partners (FHWA, EPA, and FTA) to pilot test the national initiative, which was designed to initiate or build community-based efforts to reduce traffic congestion and improve air quality. The communities also introduced the federally sponsored *It All Adds Up to Cleaner Air* campaign. One of the nation's largest metropolitan areas, San Francisco, CA, one medium-sized city, Milwaukee, WI, and a rural area, Dover, DE, were selected as pilot sites. Each of the sites collaborated with community groups, businesses, and environmental groups to implement and sustain the program within their own communities.

The pilot phase included a comprehensive evaluation that tracked the implementation of the pilot program, including activities conducted at the community level, use of media messages, the initiative's impact on the public, and recommendations for the launch of the 1999 demonstration community phase. Because this initiative is designed to support existing efforts and identify successful community strategies, the evaluation encompassed all activities reported by the pilot sites to support the initiative's objectives of increasing awareness of the relationship between transportation and air quality and increasing awareness of alternate modes of transportation. The findings of the pilot phase provided valuable insight and encouragement in continuing to develop a national initiative to meet the needs of a diverse array of communities, lay the foundation for a sustainable effort, and ultimately inspire the public to take action.

Key Findings

Community participation during the pilot phase was pivotal to developing and refining the national initiative. The pilot communities lent their expertise to assist in the development of resources and support materials that will serve as a foundation for a nationwide community-based public education and information effort. The resulting insights and materials will serve to spark and sustain community efforts across the country. Participation was time consuming for pilot communities due to limited resources and staff. Pilot communities requested additional facts on transportation and air quality, which resulted in a collaborative DOT and EPA effort to quantify the benefits of environmentally conscious transportation choices to society and to individuals. One of the most significant results of the pilot phase was further development of this resource toolkit, providing resources and materials from which communities can select to tailor the initiative to meet their communities' needs.

Many strategies selected by communities provided overarching themes while other approaches were very tailored to specific local needs or expertise. Although common "best practices" such as close collaboration with community organizations were identified, communities truly customized their strategies based on their unique needs. For example, Milwaukee enhanced its coalition's strategic planning process to build a foundation that will sustain its program, while Dover, as a new program, developed collaborative relationships with community organizations to establish a local coalition and produced localized television public service announcements (PSAs). San Francisco used the federal funding and technical assistance to conduct research to develop outreach materials for their growing Hispanic population, and provided us with insight on the development and operation of their extensive public education effort.

Media coverage was significant, but there are opportunities for refinement and improvement. Media coverage received across all three pilot sites was similar to the average coverage obtained in other national PSA initiatives. Across the three pilot sites the PSA air time was equivalent to almost half a million dollars in advertising space, not including radio or television news stories. The most successful use of the media was San Francisco's ability to leverage approximately $415,000 worth of equivalent advertising space through public relations and strong media relationships. PSA usage rates could be improved by earlier distribution, further development of messages, increased community support, and national distribution of media materials.

As expected, the initiative's impact on the general driving public was limited to changes in awareness. It was initially anticipated that the complex nature of changing travel patterns would require 1-4 years. The results of this study do not suggest that any significant changes in actual behavior occurred during the pilot campaign; however, there is evidence in all three markets that the initiative was noticed. Recall of messages, programs, and activities that draw attention to the relationship between personal driving habits and local air quality increased markedly between

times of the pre- and post-campaign market research. Recall of some specific campaign

ssages

likewise increased markedly. There was, however, little change in awareness of the program tagline *It All Adds Up to Cleaner Air*.

The key findings from the pilot phase of the initiative encouraged the federal partners to refine and expand the program to support 14 demonstration communities from May 1999 to October 2000, and make the initiative materials available to additional communities.

Demonstration Phase

The *It All Adds Up to Cleaner Air* demonstration phase started at the beginning of the 1999 ozone season. This phase represented continued "real-world" research, this time in 14 demonstration communities.

These communities received the concepts, approaches, and high-quality materials—incrementally refined following pilot testing—and adapted them for their specific purposes. The intent was to demonstrate how *It All Adds Up to Cleaner Air* materials and strategies could be modified and incorporated into ongoing outreach and partnership-building efforts across the country.

Lessons learned and products developed are now being shared with communities that face similar air quality and congestion issues and demographics. The 14 demonstration communities produced results showing the value of varied approaches, and, more importantly, the need to keep flexibility at the fore in material use and development. Demonstration communities proved the benefits of having diverse materials, as reflected in the rich creativity of their individual approaches.